

Serial No. 10/735,758

July 27, 2005

Reply to the Office Action dated May 10, 2005

Page 2 of 7

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claims 1 and 2 (canceled).

Claim 3 (currently amended): A high-frequency superposing module for driving a laser diode, comprising:

~~the an oscillator according to claim 1~~ for superposing a high-frequency current for the laser diode comprising:

an oscillating active element;

a capacitor connected between a feedback-signal input terminal of the oscillating active element and a ground;

a first bias resistor connected between the feedback-signal input terminal and a power input terminal; and

a second bias resistor connected between the feedback-signal input terminal and a control-voltage input terminal; wherein

the first bias resistor and the second bias resistor have values such that when the control-voltage input terminal is grounded, the bias voltage at the feedback-signal input terminal is above the ground potential and below a threshold for continuous oscillation of the oscillating active element, and when the control-voltage input terminal is open, the bias voltage at the feedback-signal input terminal is above the threshold;

a drive-signal output terminal connected to the anode of the laser diode;
and

an impedance matching circuit connected between the drive-signal output terminal and an output section of the oscillator.

Serial No. 10/735,758
July 27, 2005
Reply to the Office Action dated May 10, 2005
Page 3 of 7

Claim 4 (original): The high-frequency superposing module for driving a laser diode according to claim 3, wherein a portion of the oscillating circuit includes a conductive pattern disposed in a ceramic multilayer substrate, and a component constituting at least a portion of the oscillating circuit and the impedance matching circuit is mounted on the ceramic multilayer substrate.

Claim 5 (original): The high-frequency superposing module for driving a laser diode according to claim 3, further comprising a noise suppression filter circuit disposed between the power input terminal and the laser diode.

Claim 6 (original): The high-frequency superposing module for driving a laser diode according to claim 5, wherein the noise suppression filter includes a capacitor and an inductor.

Claim 7 (original): The high-frequency superposing module for driving a laser diode according to claim 3, wherein the impedance matching circuit including the series capacitor and the parallel capacitor is arranged for impedance matching between the oscillating circuit and the laser diode.

Claim 8 (original): The high-frequency superposing module for driving a laser diode according to claim 3, wherein the oscillating circuit includes a transistor, a first resistor connected between a base and a collector of the transistor and a second resistor connected between an emitter of the transistor and the ground.

Claim 9 (original): The high-frequency superposing module for driving a laser diode according to claim 8, wherein a first series circuit including a capacitor and an

Serial No. 10/735,758
July 27, 2005
Reply to the Office Action dated May 10, 2005
Page 4 of 7

inductor and a second series circuit including at least two capacitors are connected between the base of the transistor and the ground.

Claim 10 (original): The high-frequency superposing module for driving a laser diode according to claim 3, wherein the oscillating circuit is a Colpitts oscillating circuit.

Claim 11 (original): The high-frequency superposing module for driving a laser diode according to claim 8, wherein the series capacitor is connected in series between the emitter of the transistor and the drive-signal output terminal.

Claim 12 (original): The high-frequency superposing module for driving a laser diode according to claim 8, wherein the parallel capacitor is connected in parallel between the drive-signal output terminal and the ground.

Claim 13 (original): The high-frequency superposing module for driving a laser diode according to claim 8, wherein a series circuit including a resistor and an inductor is disposed between the emitter of the transistor and the ground.

Claim 14 (original): The high-frequency superposing module for driving a laser diode according to claim 8, wherein a series circuit including a parallel circuit having an inductor and a capacitor, and a resistor, are disposed between the emitter of the transistor and the ground.

Claim 15 (original): The high-frequency superposing module for driving a laser diode according to claim 8, wherein a resistor is disposed between the base of the transistor and the ground.

Serial No. 10/735,758

July 27, 2005

Reply to the Office Action dated May 10, 2005

Page 5 of 7

Claim 16 (original): The high-frequency superposing module for driving a laser diode according to claim 4, wherein the ceramic multilayer substrate includes a plurality of laminated ceramic layers having conductive patterns disposed thereon.

Claim 17 (original): The high-frequency superposing module for driving a laser diode according to claim 4, wherein the ceramic multilayer substrate includes a plurality of via holes formed therein.

Claim 18 (original): The high-frequency superposing module for driving a laser diode according to claim 4, further comprising a metal case arranged to cover sides of the ceramic multilayer substrate.